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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,688	05/14/2007	Kazunori Kaneda	Q969/67	9004
23373 7590 08/26/2010 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER				
FISCHER, JUSTIN R				
ART UNIT		PAPER NUMBER		
1791				
NOTIFICATION DATE		DELIVERY MODE		
08/26/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

sughrue@sughrue.com  
PPROCESSING@SUGHRUE.COM  
USPTO@SUGHRUE.COM

### Office Action Summary

**Application No.**

10/598,688

**Applicant(s)**

KANEDA ET AL.

**Examiner**

Justin R. Fischer

**Art Unit**

1791

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/22)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-5, 7, 8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hahn (EP 434596, of record).

Hahn teaches a pneumatic tire construction, wherein a wire coat is formed with a high modulus rubber composition (Column 1, Lines 4-8). One would have recognized such a disclosure (wire coat) as including a steel cord-rubber composite body. More particularly, Hahn teaches a high modulus rubber composition comprising polydiene rubbers, such as natural rubber, and a polyester, wherein said polyester is formed by reacting a diacid halide and a diol, such as hydroquinone or resorcin (Column 3, Lines 15-40, Column 4, Lines 9-48, Column 21, Lines 25-41 and Lines 54+). In this instance, the claimed additive (defined by formula 1) is analogous to the above noted polyester as applicant specifically states that said additive is formed by reacting a diacid chloride and a diol, such as hydroquinone or resorcin. The reference further teaches that the rubber composition would include said polyester at a loading between about 2 phr and about 50 phr, which substantially incorporates all of the claimed loadings (Column 20, Lines 1-15). Given the general disclosure of Hahn, one having ordinary skill in the art at the time of the invention would have found it obvious to form the specific polyester of the claimed invention and include it at a loading between 0.1 and 10 phr absent any conclusive showing of unexpected results.

In regards to sulfur, it is well recognized that nearly all tire compositions include sulfur as it is recognized as one of the most conventional curing agents. It is further noted that Hahn even suggests that prior art methods involved increasing sulfur loadings beyond conventional loadings (Column 1, Lines 19+). A fair reading of the reference suggests that the rubber composition of Hahn, as i conventional in the tire industry, would have included sulfur as a curing agent (added during a productive step). Additionally, the claimed values between 1 and 10 phr represent those that are conventionally associated with curing agents and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed range.

With respect to claims 2 and 3, applicant teaches that the claimed additives are formed by reacting a diacid halide with resorcin (Paragraph 38) and such is expressly disclosed by Hahn as detailed above.

As to claims 4 and 5, the diacid halide of Hahn includes an alkylene group containing from 1 to about 12 carbon atoms (Column 21, Lines 25+).

Regarding claims 7 and 8, Hahn suggests each of synthetic isoprene rubber and natural rubber (Column 3, Lines 35+) and one having ordinary skill in the art would have been amply motivated to form a rubber composition including the above noted rubbers individually or in combination (given the general disclosure of Hahn).

With respect to claim 11, as noted above, Hahn is directed to a high modulus rubber composition for a tire wire coat. One of ordinary skill in the art at the time of the invention would have recognized such language as including the carcass and/or belt since these components represent the fundamental components of modern day tire

constructions. Additionally, it is well known and conventional to use steel as the "wire" detailed above.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneda (US 4,076,668, of record). As detailed above, Hahn is directed to a tire rubber composition usable as a wire coat composition. While Hahn is silent as to the additives used in the wire coat composition (e.g. fillers, tackifying agents, anti-oxidants, etc.), it is extremely well known and conventional to include organic acid cobalt salts in order to improve adhesion between the wires and the surrounding coating/topping rubber, as shown for example by Kaneda (Abstract and Column 1, Lines 5-30). One of ordinary skill in the art at the time of the invention would have found it obvious to include such a well known additive in the wire coat composition of Hahn for the reason set forth above.

#### ***Response to Arguments***

4. Applicant's arguments filed June 18, 2010 have been fully considered but they are not persuasive. Applicant argues that the object of Hahn is to provide a high modulus rubber composition and thus fails to disclose or suggest improved adhesion between a coating rubber and steel cord. Applicant further contends that such adhesion would not be expected from Hahn's disclosure.

As set forth in the rejection above, Hahn is specifically directed to a wire coat (topping rubber) composition usable in a pneumatic tire, wherein said composition includes a polyester additive formed by reacting a diacid halide and a diol, such as resorcin or hydroquinone. This reaction is identical to the reaction described by applicant and thus, one would expect the composition of Hahn to include a polyester in

accordance to the claimed invention. Additionally, it is emphasized that it is not required for a reference to expressly adopt applicant's rationale or expressly identify applicant's purported benefits- the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). It is emphasized, contrary to applicant's argument, that one would expect improved adhesion between the wire and rubber composition in Hahn (appears to directly result from the inclusion of the claimed additive).

Lastly, Tables 4 and 5 are not persuasive since the rubber composition of Hahn expressly includes a polyester product formed by the claimed method and thus, any realized benefits would be present in the tire assembly of Hahn. Also, the combination of terephthaloyl chloride and hydroquinone is an exemplary embodiment of Hahn that satisfies the polyester product required by Formula 1 of the claimed invention (expressly disclosed as such by applicant- (Paragraphs 30 and 31).

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 1791

Justin Fischer  
/Justin R Fischer/  
Primary Examiner, Art Unit 1791  
August 24, 2010